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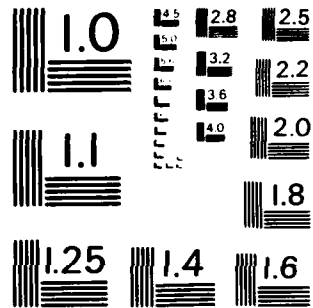
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THE REDISCOVERY AND ANALYSIS OF THE  
CULTURAL SIGNIFICANCE OF MAGNETIC ANOMALIES  
RIVER MILES 93.0-93.7 AND 98.2-99.5  
APALACHICOLA RIVER, Florida

AD - A134922

Prepared for  
U.S. Army Corps of Engineers, Mobile District

By  
Newell O. Wright, Jr.

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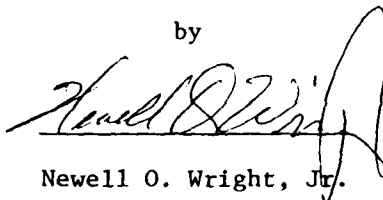
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Prepared for

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Newell O. Wright, Jr.

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# ABSTRACT

Between July 18 and 27, 1983, representatives of the U. S. Army Corps of Engineers, Mobile District; State of Florida Department of Archives, History and Record Management; and Archaeological Research Associates, Inc., Valdosta, Georgia, investigated clusters of magnetic anomalies in the Apalachicola River, Florida. One cluster of anomalies is located near Ochesee Landing in the 93.0-93.7 mile river segment and five clusters are located near Aspalaga Landing in the 98.2-99.5 segment. The investigation consisted of relocation of the anomalies and ground truthing to determine their significances.

All clusters were relocated through the use of a marine magnetometer. The objects creating magnetic anomalies were discovered, evaluated or, as in one instance, determined to be outside of the impact zone. Nothing was encountered which was potentially eligible for nomination to the National Register of Historic Places. From an archaeological perspective, there is no objection to the proposed removal of limestone rock within the described areas.

#### ACKNOWLEDGEMENT

The cultural resources investigation reported herein is somewhat unusual in that it reflects the joint efforts of several different organizations rather than that of a single contractor or agency. The timely and successful completion of the project points to the positive benefits of such a venture.

The marine survey archaeologist from the U. S. Army Corps of Engineers, Mobile District, Dorothy H. Gibbens, operated the magnetometer which helped to relocate the magnetic anomalies in the several clusters. Having a magnetometer and a highly skilled operator such as Dottie on the job certainly insure its successful completion.

The archaeological representative of the State of Florida Department of Archives, History and Records Management, Danny H. Clayton, also facilitated our job. Danny was able to see the suspect material and to determine its significance. Further, his presence on the site enabled a hands-on evaluation of the work performed.

The Mobile District Panama City, Florida Area Office provided the dive team. The team consisted of Henry Boone, Diving Superintendent; Jack Branning and Hueland L. "Gator" Brown, divers; and Kenneth Mann, tender. This was a highly professional team and one that was sensitive to the protective needs of antiquities. In many instances, they good naturedly worked hard moving insignificant cultural material, "garbage," to satisfy the whims of archaeologists. The group was assisted by James Frost and Margaret Gross, engineering aids. We are especially appreciative of the entire group effort during this component of the work.

The representative of Archaeological Research Associates, Inc., Newell O. Wright, Jr., served as consultant. His job was to evaluate the cultural material and write the follow-up report. All of the assistance from the previously mentioned persons is much appreciated. Any error herein, however, is solely the responsibility of this author.



## INTRODUCTION

The U. S. Army Corps of Engineers, Mobile District is planning to remove limestone rock from some areas in the Apalachicola River in Florida. The proposed work is designed to enhance the navigability of the channel. Because this rock removal could have an adverse effect on cultural resources which may exist within the impact zone, analyses including historical research and magnetometer survey were initiated to identify any such resources (Gibson 1980, Jones, Edmunds and Associates 1981). Some potential magnetic anomalies were identified which could be impacted (Gibbens n.d.); therefore, the investigations whose description follows was initiated to identify and evaluate material which exists within the area.

## SURVEY AREA

In 1979 the area between River Miles 6 and 106 was surveyed with a magnetometer. During this work, 120 magnetic anomalies were recorded. In some instances there were correlations between potential cultural resources and magnetic anomalies, and these were chosen for ground truthing (Gibson 1980, Jones, Edmunds and Associates 1981, Gibbens n.d.). Thus the area of interest here, between River Miles 93.0-93.7 and 98.2-99.5, needed further attention.

The first area which was investigated was near Ochesees Landing River Mile 93.0-93.7 where one anomalous cluster had been identified. The Ochesees Landing survey area extended approximately 169 meters (550') north and south of the mouth of Ochesees Creek and about 31 meters (100') both upstream and downstream from the maximum extent of rock removal. Within the 17 anomalies in this location was one apparent cluster. The cluster is on the west side of the rock removal area, extending from the center of the channel toward the west bank. The gamma readings within the cluster ranged from 12 to 300 (Gibbens n.d.).

For visual survey at the Ochesees Landing cluster, bottom conditions were generally good. Much of the bottom was clean limestone; however, a few inches of sedimentary deposits overlay some areas. As the search neared the bank, up to several feet of silty deposits which were sloughed from the bank were encountered. The many trees and brush that had fallen into the area were a hindrance and a hazard to the survey.

The second area investigated during the work described here was south of Aspalaga Landing between River Mile 98.2 and 99.5. Within this area, 62 magnetic anomalies were recorded ranging from 6 to 490 gammas above ambient magnetic field. Many of these anomalies resulted from isolated events or were outside of the impact zone. Five clusters were discovered. Because these possibly indicated that a series of objects or components or a single mass of ferrous material existed, they warranted further attention (Gibbens n.d.). The location of these clusters are shown in Gibbens (n.d.) and Jones, Edmunds and Associates (1981).

These several areas can be described as a unit because they all share similar physical features. Each presented good survey conditions, a clean limestone bottom and very little overlying deposits. Although the bottom was obscured by slough as the search moved toward the bank, visibility was excellent. Trees and brush were interspersed with the ferrous material and presented the only problems encountered. In spite of this, surveyors were able to discover the cause of the magnetic anomaly in each instance.

## TECHNIQUES AND EQUIPMENT

Techniques should be discussed and evaluated only within the context of the objectives of the investigations and the tasks which the techniques are designed to serve. The purpose of the cultural resources evaluation on the Apalachicola River was to relocate the magnetic anomalies identified in earlier surveys (Gibson 1980, Jones, Edmunds and Associates 1981). The ferrous material represented by the anomalies was to be located and visually inspected, enabling evaluation of their significance. Relocation was accomplished through the use of a marine survey magnetometer and sensor, a recording fathometer and an aluminum or fiberglass boat.

The marine survey magnetometer was a Geometrics model G806-M set to sample at one gamma per second. Two different sensors were utilized during the survey. One, a marine sensor, was towed aft of the boat while the other, a land sensor, was suspended from a boom which extended past the bow. The change from one type to the other was related to a failure in equipment, but ultimately it resulted in a better product.

At the onset of work, the marine sensor was towed through the area where the cluster of anomalies had been discovered earlier. The transects were made against the current to aid boat handling. The sensor was towed approximately 10 to 15 meters (30' to 40') aft of the vessel to avoid having the magnetometer affected by ferrous material or electrical activity of the boat. The sensor was supported slightly below the surface of the water by a brightly colored bouy. The bouy not only held the sensor head but provided a target which enabled workers to follow its progress through the water.

After initial passes through the area to test the magnetometer and establish procedures, transects were made approximating those used during the earlier phases of the survey (Gibson 1980, Jones, Edmunds and Associates 1981). The sensor head was tracked from land by transit operators. The data obtained allowed the positioning of markers over the anomalies in prepa-

ration for visual inspections. When the magnetometer operator noted an anomaly, signals were given to transit operators to lock the transits on that particular location. Following the direction of the transit operators, a second boat carrying bouys then moved into the area and marked the anomaly through triangulation.

This technique worked moderately well but had the limitations of being rather labor intensive, awkward and slow. The failure of the marine sensor during the trial passes led to the adoption of another technique utilizing the land sensor. The land sensor could not be towed underwater and, therefore, was placed on a boom of P.V.C. pipe approximately 6 meters (20') long. The sensor itself was located approximately 3 meters forward of the bow and was attached to the boom with duct tape and nylon cord. The land sensor was initially feared inadequate for the task because it is not as sensitive as the marine model; however, this proved to be an unfounded concern. Magnetic variations equal to or higher than those of the marine head were observed with the land sensor because greater mobility and more precise position control were possible through the use of the sensor on a boom rather than in tow. Additionally, bouys were dropped from the boat with the magnetometer, eliminating triangulation from land-based positioning instruments. Marker bouys were therefore more precisely placed over the anomalies and their position easily checked by making another pass with the magnetometer. Other benefits also resulted from the equipment change. For instance, the number of people necessary to accomplish the tasks was reduced since the land-based positioning equipment was no longer necessary. In the future, the quality of such work would be enhanced by placing the marine sensor on a boom.

Another piece of equipment used was a Raytheon DE 719-B Survey Recording Fathometer. This enabled the crew to obtain an idea of an object's size, position and orientation, an aid in placement of personnel for visual inspection.

Once the individual signatures within the cluster were marked, divers were used to find the ferrous materials and to determine their significance. Although the anomalies were well marked, the task of actually locating the material for visual inspection and evaluation still existed.

A controlled search pattern was used. The boat or boats were usually anchored upstream of the anomaly. Attached to a tender by a tether, divers were placed in the water. The tether was not only a safety device but also a means of communication. Through signals transmitted through the tether, divers were directed to precise spots. The divers searched the bottom in a fan-shaped pattern moving from one side of the survey area to the other and then to an uninspected area and repeating the pattern again. This search continued until the entire area had been visually inspected and all cultural objects identified.

In cases where possible, all ferrous objects were removed from the river. The area was inspected again with the magnetometer to be certain that no more anomalies existed. In cases where large quantities of ferrous debris existed, it was deemed adequate to merely identify the objects. In this instance and if someone else found the object, the archaeologist was led to the object for identification or it was brought to the surface for his viewing. However, not every object was seen by the archaeologist when several like objects were within an area.

## DISCUSSION OF ARTIFACTS

No artifacts were discovered which have National Register significance. Little was discovered that could even be categorized as more than a few years old. The artifacts themselves, although recent, represent some type of human behavior; therefore, an attempt to reconstruct or interpret behavioral patterns associated with the artifacts is obligatory.

The search at the cluster of anomalies near Ochesee Landing returned a chain about eight inches long to which was attached on each end a sharpened metal peg about three inches long, a shaft approximately one foot long with three straight cut gears, and a board (1"x10"x5') with remnants of nails. The artifacts are technologically diverse and do not seem to represent a single behavioral unit or complex but rather isolated events. The type chain described is known to have been utilized when rafting logs. Chains such as this were used either to help bind numerous trees of a raft into a single unit by driving the pegs into the timbers or they were used to secure "sinkers," logs that had a tendency to sink rather than float. In this second context, the sharpened pegs were driven into the "sinker" and into a floating log that would help support the former. In either case, this artifact is a result of past commercial logging activity that occurred on the Apalachicola River. This type of logging was most common during the nineteenth century and early twentieth century (Jones, Edmunds and Associates 1981).

Two possible explanations exist for the presence of the gears and shaft. One is that they were part of boat machinery which fell overboard. A second possibility is that the gears had been shifted from one technological domain to another. Although the gears had originally been part of a machine, at some point it was dismantled and the parts used separately for other purposes. The gears could have become part of another technological system such as riverine resource exploitation.

The gears could have been used as weight for fish lines or possibly even as an anchor for a small boat. The second explanation for the gears' presence is believed more likely.

The board which was located was badly eroded and appeared to have been sunken for a long time. Erosion had obscured the saw signature, a possible indicator of age. Nails had been driven into the narrow edge rather than through the board. The position of the nails suggest that the board was part of a structure with sides at right angles to each other, such as a box or small boat. The nails themselves give some indication of age since they are rectangular in cross section rather than round like modern wire nails. Whether the nails were cut or wrought could not be determined. Although both types can still be purchased today, each has a special application. Therefore, presence of rectangular nails suggests that the structure of which the board was part dates from the turn of the century and perhaps much earlier (Nelson 1963).

After the artifacts were removed, the area was again surveyed with the magnetometer. A magnetic anomaly in excess of 300 gammas was still present. By carefully tracing the rise and fall of the magnetic variation, determination was made that the object producing the anomaly was either in the bank of the river or in the sediments immediately adjacent to the bank. The representatives of the state and the U. S. Army Corps of Engineers agreed that the object was outside the impact zone and therefore would not be affected by the scheduled work. No further search for the object was made; however, prior to any future work in the area, this anomaly must be exposed and evaluated.

Five areas of anomalies, numbered 1 through 5, were found near the landing at Aspalaga Creek. These are discussed below.

#### Cluster 1

The search here returned a large quantity of metal artifacts: four pieces of dredge pipe collar, numerous but uncounted welding rods, one piece of cable with loops on each end whose overall length was about twelve feet, one piece of angle iron, a tooth from a dragline bucket and a tooth from a dredge bucket. These artifacts probably represent



a single or restricted series of events from the recent past. The dredge pipe collars resulted from channel maintenance activities. The other artifacts also lend credence to this dredging interpretation. Welding is common on a maintenance boat; this is represented by the welding rods. The fact that they are electrical suggests a rather recent date for the activities. Even the angle iron can be used in welding as a wedge. The teeth from the buckets also indicate channel maintenance activities. The cable which was found could have been used as a hawser, perhaps for mooring the boat to the river bank or harnessing heavy objects.

#### Cluster 2

The group of anomalies which composed Cluster 2 was created by several pieces of one inch cable of varying lengths and two window weights. The cable probably came from a boat involved with channel maintenance. The presence of window weights would be perplexing if one considers their primary function of controlling the lowering and raising of windows. However, they are almost certainly an example of an item whose technological system has been changed. At least in the south, these weights are commonly used as boat anchors or weights for trot lines.

The area was resurveyed with the magnetometer after these metal objects were removed. No remaining anomalies were located and the area is free of cultural material.

#### Cluster 3

The third cluster of the Aspalaga group was a result of numerous pieces of cable varying in length, welding rods and metal wedges used in welding pipe. Again, these are almost certainly the result of channel maintenance.

Clearing bottom would have been a substantial task because of the large number of cable fragments. The bottom was not cleared, however, because bottom conditions enabled us to determine with certainty that buried objects were not present. All ferrous material associated with the magnetic anomalies were seen and identified.

#### Cluster 4

A piece of pipe 1/2" or 3/4" by 8' and one long piece of cable composed Cluster 4. The cable almost certainly originated from a dredge or snag boat. The source of the pipe is unknown, but it must have come from a work or fish boat.

#### Cluster 5

The fifth cluster at Aspalaga consisted of at least six pieces of sixteen-inch shore pipe, each several feet long. As with most of the material in the area, these too came off a boat involved with maintenance of the channel. The number and size of the pipe would have made clearing the area difficult with the equipment, personnel and time available. An intensive visual search and identification of all artifacts were considered adequate to insure that no significant cultural resources would be impacted.

## CONCLUSION

Although the artifacts recovered during the survey do reveal some aspects of recent human activity, particularly fishing and channel maintenance, none of them is even remotely eligible for nomination to the National Register of Historic Places. From an archaeological perspective, there is no objection to limestone rock removal by the U. S. Army Corps of Engineers in the described areas of the Apalachicola River.

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